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# "Neck Sparing Total Hip Arthroplasty In The Osteoporosis Patient"

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## AIMS:

Architectural changes occur in the proximal femur after THA and can lead to implant loosening and or breakage.

Our aim was to review total hip patients with osteoporosis treated with a novel short curved neck sparing (neck stabilized) total hip stem as to their short-term outcome.



Architectural changes in the proximal femur after THA continue to be a problem.

# **Materials and Methods:**

# **Surgical Technique Tips:**



### **Results on all 1225 Stems**

**Anterior Approach** Dislocations = 2Stem Revisions = 3Aseptic Loosening =1 Superficial Infection = 2Septic Loosening = 0Sepsis Pending Explant = 1 Leg length discrepancy  $\pm - 7mm = 9$ Occult Fx distal end of the stem =1 Calcar Fxs. wired = 2Calcar Fxs. not wired = 3Hip Pain = 2Subsidence >5mm = 3Intra-op femoral perforations = 3 Mismatch heads = 2(required revision surgery for head correction)

#### **Posterior Approach**

Dislocations = 4Stem Revisions = 3 Aseptic Loosening = 0Superficial Infection = 0Leg length discrepancy  $\pm - 7mm = 7$ Fractures distal = 0Calcar Cracks wired = 1 Calcar Cracks not wired = 2Hip Pain = 1 (being watch) Subsidence > 5mm = 0Intra-op fractures resulting in stem bailout = 3

A retrospective review of patients who underwent primary total hip arthroplasty that were classified

as Dorr type C bone.

A total of 1225 stems have been implanted between April 2010 and April 2012 by 25 different surgeons. 500 stems have been implanted by the Co-Authors.

Typical patient profile showed two-thirds being female with an



age range overall between 17 to early 90s. Majority were treated for OA with 100 patients classified as Dorr type C bone.

All surgeons are at different locations and all underwent specific training to familiarize themselves with the stem design and required surgical technique. All seven were part of the initial surgical team to aid in designing and fine tuning of surgical instruments.

Sub cap is too high. First cut provides maximum conical flair contact design allows flexibility in level of cut but might effect size of stem, example: from a 2 to a size 3.

Head / neck disassociation = 1

Note: All stem revision were revised to standard length primary cementless stems.

#### Type C Dorr Bone Results (from original 100 patients)

One patient has subsided 8-10 mm (stem has stabilized) however, is still meeting with some mild hip pain associated with activity and is being watched. Potential revision.

Six of the seven surgeons feel that these patients (with this short curved neck sparing stem) have gotten back to full weight bearing and a full active life style quicker than their conventional cementless THA. One surgeons gauges them as equivalent to his conventional stems. All feel that there is less blood loss and operative times have been reduced.

We are encouraged with our initial clinical / surgical observations (patients are happy) and believe the potential and real benefits warrant not only further evaluation but expanded evaluation of this tissue conserving approach to THA.

Dorr type C bone or osteoporsis does not appear to be a contraindication but caution is called for ensuring a stable fit at the femoral neck cut is made.





CCD FROM 125°TO 145° OFFSET VATIATION =26.1

- A: 5-8mm below sub cap B:8-16mm below sub cap C: >16mm Below sub cap
  - Note: conventional tends to run approximately 20 mm below sub cap level or 1.0 to 1.5 cm above LGT. S

SECTION G-G

The proximal modular neck allows for fine tuning joint mechanics without disruption of implant to bone interfaces.



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